

Claims

1. A terminal for simultaneously operating in a first mobile radio communications network and a second different radio communications network, comprising:

5 first radio transceiver means for transmitting and receiving in said mobile communications network and arranged such that successive transmissions by said first transceiver means in said mobile communications network are separated by a first period of time; and

10 second radio transceiver means for transmitting and receiving packets in the second radio communications network, arranged for transmitting and/or receiving an integer number of packets sequentially in the first period of time.

15 2. A terminal as claimed in claim 1, wherein the second transceiver means controls the second communications network by defining allocation patterns for transmission and/or reception of packets in the second communications network.

3. A terminal as claimed in claim 2, wherein said allocation patterns controls the timing of transmissions of packets within the second communications network.

20 4. A terminal as claimed in claim 3, wherein said allocation patterns controls at what time transceiver units in the second communications network are given access to the network, whether that access is for transmission or reception and the duration of that access.

25 5. A terminal as claimed in claim 2, wherein said allocation patterns avoid predetermined concurrent activities at the terminal.

6. A terminal as claimed in claim 5, wherein said allocation patterns avoids or prevents transmission of packets in the second communication network by the
30 second transceiver means while said first transceiver means is transmitting in the first communications network.

7. A terminal as claimed in claim 2, wherein said allocation patterns allows the transmission of packets in the second communication network by the second transceiver means only when the first transceiver means is not transmitting in the first communications network.

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8. A terminal as claimed in claim 2, wherein said allocation patterns have a finite length, equal to said first period of time or a multiple thereof, and is cyclically repeated.

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9. A terminal as claimed in claim 8 wherein said length of the allocation patterns are variable, being controlled by said second transceiver means.

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10. A terminal as claimed in claim 2, wherein said allocation patterns are variable being controlled by said second transceiver means.

11. A terminal as claimed in claim 1, wherein the second radio transceiver means is a TDMA transceiver and said first period of time corresponds to a TDMA frame.

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12. A terminal as claimed in claim 1, wherein the second radio transceiver defines a common time frame used in the second radio communications network

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13. A terminal as claimed in claim 12, wherein the common time frame comprises a series of slots having the same length, wherein at most one packet is transmitted in the second communications network during each slot.

14. A terminal as claimed in claim 13, wherein the length of the slot is such that a first integer number of slots correspond to the first period of time.

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15. A terminal as claimed in claim 14 wherein said first integer number of slots is an even number of slots.

16. A terminal as claimed in claim 14, wherein said first integer number of slots is minimum but greater than one.

17. A terminal as claimed in claim 13, wherein the length of a slot is such that a
5 second integer number of slots correspond to a second period of time, representing the period of time between successive transmissions in a third mobile radio communications network.

18. A terminal as claimed in claim 17 wherein said second integer number of
10 slots is an even number of slots.

19. A terminal as claimed in claim 18 wherein said second integer number of slots is minimum but greater than one.

20. A terminal as claimed in claim 17, wherein the length of the slot is variable
15 depending on the first and/or third communication systems.

21. A terminal as claimed in claim 13, wherein the length of the slot is fixed.

22. A terminal as claimed in claim 1, wherein the second transceiver means
20 controls the second communications network such that the frequency at which packets are transmitted therein hops with successive slots.

23. A terminal as claimed in claim 11, comprising means for shifting the common
25 time frame to maintain synchronisation with its activities in the first communications network.

24. A terminal as claimed in claim 1, wherein said first transceiver means is
30 adapted for use in a TDMA system wherein the first period of time corresponds to the length of a TDMA frame.

25. A terminal as claimed in claim 24, wherein said first transceiver means is adapted for use in a GSM, D-AMPS or PDC network.

26. A terminal as claimed in claim 1, wherein each transmission by the first
5 transceiver means does not exceed a predetermined duration.

27. A terminal as claimed in claim 17, wherein the third transceiver means is adapted for use in a TDMA system, the first period of time corresponding to the length of a TDMA frame.

28. A terminal as claimed in claim 27, wherein said third transceiver means is adapted for use in a GSM, D-AMPS or PDC network.

29. A first mobile radio communications network comprising a terminal as
15 claimed in any preceding claim.

30. A radio communications system comprising a plurality of transceivers synchronised to a common time frame having a succession of equal time slots, wherein a single transceiver transmits in any one time slot, the duration of said
20 time slots being programmable.

31. A radio communications system as claimed in claim 31 wherein said programmable duration corresponds to $20/(13 \cdot K)$ ms or a multiple thereof, where K is a natural number whose value may be programmed.

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32. A radio communications system comprising a plurality of transceivers synchronised to a common time frame having a succession of equal time slots, wherein a single transceiver transmits in any one time slot, each of said time slots having a duration $20/(13 \cdot K)$ ms or a multiple thereof, where K is a natural
30 number.